

Market Consultation

Microplate Liquid-Scintillation Counter, Filtermate Cell Harvester and Automatic Gamma Counter

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1. Background information regarding the application

The Vrije Universiteit Amsterdam (VU) is a large innovative university which actively contributes to developments in education and research. For more information about the VU, see <https://www.vu.nl/en>

The O|2 Lab Building is a relatively new research building of the VU University and Amsterdam University Medical Centre. The O|2 building is dedicated to the research and education of Human Health and Life Sciences. Although the building itself was delivered in 2016 as a state-of-the-art shared research and education facility, the equipment of the Radioactivity Laboratory (RA Lab) within the O|2 Lab Building was inherited from a much older University facility. The current apparatus (Tri-Carb A280001, Microbeta Trilux 1450-027, LKB-Wallac CompuGamma 1282Gamma and several FilterMate Cell Harvesters) is now close to the end of its working life and has reached the point where repairs are no longer cost effective and potentially not possible due to the discontinuation of components. In order for the RA lab to remain viable and facilitate the continued research of several departments that involve the use of radioactive isotopes, it is now necessary to replace this equipment.

The purpose of this market consultation is to find potential suppliers of the instruments necessary for updating of the RA Lab. Candidates are invited to respond on the basis of the information provided in this document regarding functional specifications, delivery, service provision and other conditions.

If, after requesting the information, you decide not to respond further, we kindly request you to notify us.

To be clear: this is NOT a quote request.

2. Required specifications of the Beta Microplate Counter

2.1 General description

The microplate counter must measure Beta⁻ and Gamma radiation. The instrument must have a 6-detector configuration and 16-shelf loading capacity. The instrument should also support different plate matrices and should be capable of running samples in 96-W filter plates, 4-mL vials and Eppendorf® tubes.

2.2 The Beta Microplate Counter should include the features:

Hardware

- 6 detectors
- 6-detector system can be configured to count 24- and 96-well plates or 96- and 384-well plates.
- Counting modes should include single- and dual-label CPM, single- and dual-label DPM.
- The instrument must be capable of Time-Resolved Liquid Scintillation Counting (TR-LSC) which significantly improves counting capabilities with opaque plates and low-energy isotopes.
- The detector design should consist of two photomultiplier tubes (PMT). One located below the sample, the other above the sample. These should count the sample simultaneously.

- PMT positioning should be automatic.
- The instrument should have a robust cassette sample-changing mechanism and provide a flexible system for varying sample types. It should be possible to load Microplates, micro-centrifuge tubes and 4-mL liquid scintillation counting (LSC) vials simultaneously into the instrument.
- The instrument should be capable of performing a wide selection of standard protocols and other counting commands.

Computer Specifications

- The instrument should have an inbuilt computer with accompanying software. The minimum specifications are:

Processor: Intel Core i5-3550s CPU (6M Cache, 3.0 GHz)

Memory: 4 GB DDR3 1333 Mhz SODIMM RAM

Video Card: Dual display supported

1 x VGA (up to 2048 x 1536 @75 Hz)

1 x HDMI (up to 1920 x 1200 @60 Hz)

1 x DVI-D (up to 1920 x 1200 @60 Hz)

Operating System: Win 10 IoT Enterprise LTSB OEM 32Bit OS

Hard Drive: 320 GB (ST320LT012)

- Factory pre-set labels should exist in the software for at least 3H, 35S, 14C and 125-I with the option of manually adding new isotopes.
- Repeat, replicates, and cycles can be programmed into the protocol.
- Delays can be set before the measurement, between cycles, and between plates.
- Plate mapping is used to define the positions of the measurable samples. Protocol-specific "auto-fill" features allow quick and easy setup of sample positions in a plate map.

Other features

- Live display should include instrument status and allow the user to follow the measurement while running the assay.
- Counting commands, such as "Next position," "Next assay," and "Stop" should be available while the counter is operating.
- Count termination can be determined by fixed time or counting precision.
- Normalizations should be able to be performed and linked to counting protocols to provide detector efficiency corrections, background corrections, and crosstalk correction for the final data.
- A DPM monitor should report samples outside the range of the quench curve.

- Quench corrections should be able to be performed and linked to counting protocols. Quench corrections will should include detector efficiency corrections, background corrections, and crosstalk corrections.

2.4 Service

- Warranty of 1 year for the instrument.
- Annual service contract for at least 3 years
- Free software upgrades during warranty
- Phone and remote support are always available.
- Service engineers for on-location repairs and maintenance should be available within the Netherlands to avoid excessive travel costs.

2.5 Delivery

The Microplate Liquid-Scintillation Counter is available within 8 weeks of ordering.

2.6 Price

The purchase price includes all costs, such as shipping & handling, installation and implementation, guarantees, training and documentation, and any additional costs for travel, accommodation and testing.

3. Required specifications of the Harvester

3.1 General description

The Cell Harvester is a bench-top lab instrument designed to harvest and wash samples from radioligand-receptor binding assays from a 96 well microplate onto glass fibre filter 96 well plates at high throughput. The Harvester and 96 well glass fibre filter plates should be fully compatible for counting in Microplate Scintillation Counter.

3.2 The Harvester should include the following features:

- A short fluid path to minimize the amount of wash fluid required and ensures more complete washing.
- Separate hot and cold waste lines to help minimize radioactive waste.
- Direct sample transfer from 96 well assay plate to the filter through straight, stainless steel aspiration tubes to reduces harvesting time, minimize sample sticking, lessen the possibility of sample dissociation and eliminate sample carry-over.
- Positioning design of the wash/aspirate tubes should provide consistent, reproducible harvesting.
- Simultaneous harvesting of each well of the 96 well plates to ensure reactions are stopped at the same time.
- Well-to-well uniformity of wash buffer volumes to further improve assay results.

- The Harvester should be delivered with the necessary additional equipment such as wash bottles and tubing, pressurised wash bottle stand, vacuum pump and air compressor.

3.3 Service

- a) Warranty of 1 year for the instrument.
- b) Phone and remote support is always available.
- c) Service engineers for on-location repairs and maintenance should be available within the Netherlands to avoid excessive travel costs.

3.4 Delivery

The Harvester is available within 8 weeks of ordering.

3.5 Price

The purchase price includes all costs, such as shipping & handling, installation, guarantees, training and documentation, and any additional costs for travel, accommodation and testing.

4. Required specifications of the Automatic Gamma Counter

4.1 General description

An automatic gamma counter is an instrument that measures multiple small samples of material emitting gamma radiation. The measurement and movement of samples is fully automated. A number of samples in sealed vials are moved along a track and then, one at a time, into a shielded detector. Gamma rays emitted from the sample interact with the scintillation crystal within the detector and are ultimately converted into an electrical signal.

4.2 The Automatic Gamma Counter should include the following features:

- Well-type NaI (TI) detectors should collect signal from all around the sample, rather than just from the sides.
- Effective lead shielding should provide constant background and minimal crosstalk; There should be no open elevator passages through which interfering radiation can pass to the detector. The Automatic Gamma Counter should have 30 mm of solid lead against the samples in the conveyor. The detector assemblies should also be covered by 12 mm of lead shielding.
- The model should have 2 detectors and at least a 500 sample capacity.
- The model should also be able to count manually.
- Samples should always be visible to the user, with easy access to all parts of the counter
- The model should have an energy range up to 1,000 keV and allow studies involving various nuclides.
- The model should have a high resolution 2,000- channel multichannel analyser dedicated to each detector

- Flexible counting volumes; the model should be able to accept a wide range of RIA tubes up to 13 mm (0.5 in) in diameter, including standard 3 mL tubes.
- LAN connectivity and USB bus should be present to make networking and data transfer easy.
- Efficient data analysis software should be part of the standard instrument package with data available in CPM, CPS, DPM or Becquerel units.
- It should be possible to easily change individual sample holders if needed.
- The model should have a built-in isotope library which automatically adjusts window settings and half-lives for pre-programmed isotopes.
- The model should have a live spectrum display
- Automatic normalization—all corrections (such as spill over, background and efficiency) should be calculated automatically by a normalization cassette for each defined isotope. Results should be automatically corrected for decay, to a user-specified date or time, or to the start of the assay.
- Library-directed dynamic normalization— the counter should employ dynamic normalization to eliminate the effects of detector imbalance. This also compensates for any drift in the performance of detectors, which may be caused by aging or environmental instability.
- A user friendly interface for protocol management and analysis of results.
- Data analysis software should be well-suited for any gamma counting study and support a wide selection of curve fitting methods and of y-axes transformations.

4.3 Service

- a) Warranty of 1 year for the instrument.
- b) Phone and remote support is always available.
- c) Service engineers for on-location repairs and maintenance should be available within the Netherlands to avoid excessive travel costs.

4.4 Delivery

The Harvester is available within 8 weeks of ordering.

4.5 Price

The purchase price includes all costs, such as shipping & handling, installation, guarantees, training and documentation, and any additional costs for travel, accommodation and testing.

5. Procedure and timeline of the market consultation

During the market consultation, all communication with regard to this subject is conducted via the purchasing management department of the VU University. Contact details, see below:

Name:	Purchasing Management Department
Faculty / Department	Finance Department
Address:	Van der Boechorststraat 1 1083 BT Amsterdam
E-Mail:	aanbestedingen.fpc@vu.nl
Citing	Market Consultation: MicroBeta Microplate Counter, Universal Harvester and Automatic Gamma Counter

Timetable Market Consultation:

Description	Deadline
Publication on www.tenderned.nl	12-04- 2022
Publication Memorandum of Information	13-04- 2022
Deadline for questions	23-04 2022, 11:00 a.m.
Last moment to submit answers	26-04- 2022, 11:00 a.m.
Sending summary to participants and closing the market consultation process	02-05- 2022

You are requested to respond to this market consultation no later than 11:00 am on 26-04 2022. Responses received after this period will no longer be considered.

The VU would like to give you the opportunity to ask any questions you may have about this market consultation.

You can do this by e-mail until 23-04 2022, 11:00 a.m. at the latest. You should send your application and questions by e-mail to aanbestedingen.fpc@vu.nl for the attention of the Purchasing Management department.

When submitting your response, please include " MicroBeta Microplate Counter, Universal Harvester and Automatic Gamma Counter" in the subject line.

Answers to the questions will be published on Tendered by means of an information memorandum by 02-05-2022 at the latest.

The VU will keep the option open to invite parties, in response to the submitted responses, to provide additional explanations to your answers orally and/or by means of a presentation. The VU will contact these parties and schedule a meeting in consultation.

The results of the market consultation can be used as input for any tender to be followed. After the market consultation has ended, written feedback of the market consultation is provided to all respondents in the form of a summary of the answers, taking into account any commercial interests of the parties. This feedback does not affect the obligation of the market consultation. Prices and/or rates are excluded from publication.

Candidates who have participated in this market consultation and who have answered the questions will receive the summary by e-mail, no later than 02-05-2022.

This summary will also be published as an appendix to any tender to be followed.

6. Other terms and conditions

In addition to the terms and conditions stated elsewhere in this document, this market consultation is subject to the following terms and conditions:

- Parties cannot derive any (mutual) obligations or rights towards the VU from this market consultation;
- Participation in this market consultation does not guarantee a role as supplier;
- Any costs for participating in this market consultation will not be reimbursed by the VU;
- The official language during this market consultation is in principle English;
- the VU is in no way bound by the results of the market consultation or obliged to realize and/or tender for the subject to which the market consultation relates;
- Claims about the use of information, confidentiality or requests for compensation in connection therewith will not be honored;
- The VU reserves the right to suspend this market consultation temporarily or permanently.